REMARKS

Favorable reconsideration of this application, in light of the following discussion and in view of the present amendment, is respectfully requested.

Claims 1-28, 30-43, 45-54 and 56-61 are pending in the present application. Claims 1-7, 9-15, 17-24, 26-28, 30, 33-39, 41-43, 45-47, 49-54, 56 and 58-60 are amended and new claim 61 is added by the present amendment.

I. Objection to the Drawings

In the outstanding Office Action, the drawings filed August 31, 2001 were objected to (2003 was incorrectly referred to in the outstanding Office Action at page 2). However, it is noted formal drawings were filed in response to a Notice to File Missing Parts on December 5, 2001. A copy of the filed formal drawings, as well as a copy of the date-stamped filing receipt evidencing the filing of the formal drawings are enclosed. Accordingly, it is respectfully submitted the formal drawings filed December 5, 2001 comply with the requirements of the MPEP and it is respectfully requested this objection be withdrawn.

II. Rejection Under 35 USC § 102(e):

Claims 1-28, 30-43, 45-54 and 56-60 were rejected under 35 USC § 102(e) as unpatentable over U.S. Patent number 6,118,586 to Tanabe. This rejection is respectfully traversed because Tanabe does not teach or suggest all the features of the pending claims.

Amended independent claim 1 includes features of an "optical film comprising: an array of diffraction grating cells arranged in a matrix, each cell comprising blazed type or binary type curved gratings," support for which is found in the originally specification at least in Figures 1 and 2 and at page 13, lines 12-16.

In a non-limiting example, Figures 1 and 2 show an optical film including a diffraction grating cell array formed by arranging fine diffraction grating cells 11 and 21 in the form of a matrix (see the specification at page 13, line 12-16). As an advantage, it is possible to form an optical diffusion film which is very bright and does not require a hologram produced by photographically recording diffused light (see the specification at page 19, line 11-16), which may cause poor contrast because of a speckle pattern associated with photographically recording a light diffusing object on a hologram (see the specification at page 5, line 15-27).

In contrast, Tanabe only discusses an "optical head device" having a "diffracting element 10" which "is disposed between a light source and an optical recording medium" (see the Abstract of Tanabe). Moreover, Tanabe at col. 2, lines 60-64 and in Figure 1 only discusses a single set of projections and recesses 2 formed on a glass substrate 1, in which the projections and recesses have "refractive indices n_{lg} and n_{le}."

Therefore, the single set of projections and recesses 2 formed on the glass substrate 1 of Tanabe are different from "an array of diffraction grating cells arranged in a matrix," as in the amended independent claims. Accordingly, it is respectfully submitted independent claims 1, 9, 20, 30, 41 and 52 and each of the claims depending therefrom patentably distinguish over Tanabe.

III. Dependant Claims Further Distinguish Over Tanabe

Moreover, it is respectfully submitted the dependent claims further distinguish over Tanabe. In a non-limiting example, dependent claim 2 recites "said gratings of different grating cells contain different profiles," support for which is found in the originally specification at least at page 24, line 27 to page 25, line 8. As an advantage, in a non-limiting example, scattered wavelengths can be avoided to obtain white or almost white light by mixing rays of diffracted light having different wave lengths (see the specification at page 24, lines 20-23).

In contrast, Tanabe only discusses at col. 5, lines 34-48 that "a phase-difference element such as a phase difference sheet or a phase difference film functioning as a half-wave sheet or a quarter-wave sheet, is laminated on the above optically anisotropic diffraction grating of the transparent substrate." Because merely laminating a sheet on a diffraction grating of a transparent substrate is different from "different grating cells" which "contain different profiles," as in dependent claim 2, it is respectfully submitted claim 2 further patentably distinguishes over Tanabe.

Further, claim 4 recites that "gratings of each of the grating cells include at least two grating pitches," support for which is found in the originally specification at least at page 27, lines 9-25. As an advantage, in a non-limiting example, since the pitch of the fraction grating of an optical diffusion film can vary on an area by area basis, a single optical diffusion film can have various functions including controlling the spreading angle of light by changing the direction of a mission of light as shown in Figure 7 (see the specification at page 29, lines 16-22).

In contrast, Tanabe at col. 7, lines 17–30 only discusses that a single set of protrusions and recesses on a transparent glass substrate has "a curvature distribution and a grating interval distribution designed by a computer," which is different from an array of diffraction grating cells arranged in a matrix, each of the cells including blazed type or binary type curved gratings (as in claim 1, from which claim 4 depends), in which "each of the grating cells include at least two grating pitches," as in dependent claim 4.

Accordingly, it is respectfully submitted dependent claim 4 further patentably distinguishes over Tanabe for this addition reason.

Also, dependent claim 17 includes features of a display device in which the "liquid crystal display layer comprises an array of pixels arranged in a matrix" and "said diffraction grating cells and said array of pixels show a one-to-one correspondence." Tanabe at col. 16, lines 23-35 only discuss a glass substrate 1 which is part of an optical head device disposed between a light source and an optical recording medium, which is different from a display device having pixels. Also, because Tanabe does not discuss a display device having pixels, Tanabe therefore does not teach or suggest diffraction grating cells and pixels showing a one-to-one correspondence. Accordingly, it is respectfully submitted dependent claim 17 further patentably distinguishes over Tanabe.

IV. New Claim

In addition, new claim 61 is added to set forth the invention in a varying scope. New claim 61 is similar to claim 9, and further recites "a plurality of drive electrodes in proximity to the liquid crystal display layer" (support for which is found in the originally specification at least at page 23, lines 5-13), in which "the drive electrodes form the light reflecting optical film," and "each of the drive electrodes includes one of the diffraction grating cells," support for which is found in the originally specification at least at page 25, lines 3-8. New claim 61 is believed to patentably distinguish over Tanabe at least for similar reasons as discussed for claim 9, and further because Tanabe does not teach or suggest the further features of claim 61.

V. Conclusion

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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